Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Algebraic Proofs Video

From the information on the video, complete the following table

|  |  |
| --- | --- |
| Addition Property of Equality |  |
| Subtraction Property of Equality |  |
| Multiplication Property of Equality |  |
| Division Property of Equality |  |
| Distributive Property |  |
| Substitution Property of Equality |  |
| Reflexive Property |  |
| Symmetric Property |  |
| Transitive Property |  |

Complete the following algebraic proofs using the reasons above. If a step requires simplification by combining like terms, write **simplify**.

1. Given 3x + 15 = 27

Prove: x=4

|  |  |
| --- | --- |
| Statements | Reasons |
| 1. 3x + 15 = 27 |  |
| 1. 3x = 12 | 2. |
| 1. x = 4 | 3. |

1. Given 13 = 2(x+4) – 5

Prove: x = 5